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tions on the edge of the rivers, often at a considerable distance from their villages.

INFLUENCE OF CULTIVATION UPON THE FOREST.—The bush, which springs up again from the seeds of the forest trees germinating in the ground, is cut down from time to time. After two or three crops have been obtained from the plantation, a variety of weedy-looking shrubs and grass begins to get a hold upon the land. The plantation is then abandoned, as the Indian does not consider it worth while to undertake the great amount of labor needed to keep the ground clear. He prefers to prepare a new plantation (M.: *insla disañ;* S.: *yamak wisam*) by cutting down another patch of the virgin forest, where he is sure of a better crop.

The brushwood springing up in the abandoned plantation (M.: *insla prata;* S.: *yamak ba*), being not interfered with any longer, gradually chokes off the grass and weeds. As a number of the larger hardwood trees had been left standing in the first place, such an abandoned plantation will, after 15 or 20 years, not differ essentially from the surrounding primeval forest. It may then be cut again for the making of a new plantation. As the country is sparsely inhabited, the Indians will always find virgin forest within close distance from their home; besides, many of them are seminomadic and change their village sites from time to time. Were they to make their plantations for a long-continued period on the same spot, cutting down the brushwood again and again, a great change would gradually take place. The soil not containing any more seeds of forest trees, grass and a scrubby vegetation would in time spring up. This may be observed around certain villages, where by this manner the forest has been beaten back, inch by inch, gradually but surely.

BANANAS AND PLANTAINS.—It is noteworthy that the most important food plant of the Sumu and of the Miskito living toward the interior, the banana (M.: *siksa;* S.: *wakisa, pasa, iñkini*), is not indigenous to America. It was apparently brought by the Spaniards from the Canary Islands during the early part of the discovery, first to Santo Domingo (Haiti), and from there to the mainland. According to the testimony of the buccaneers of the latter part of the seventeenth century, bananas and plantains were already cultivated in those days by the Miskito of Cabo Gracias a Dios. Raveneau de Lussan (429) saw in 1688 many bananas on the banks of Rio Coco, and states that they had been planted by the Albaotins (= Sumu) and by the river currents. He also found this plant cultivated by the Mulattoes living around Cabo Gracias a Dios (438). Dampier (I, 9–10) mentions plantains among the Miskito, but he does not say anything about bananas. Exquemelin (English edit.: 114, 251), on the other hand, who visited the coast in 1671 and 1672, saw bananas, plantains, and

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"racoven" [1] among this same tribe as well as among the Kukra of the Corn Islands. M. W. (302, 310) also refers to bananas and plantains among the plants cultivated by the Miskito.

There is a great variety of bananas and plantains grown by these Indians, but by far the most common is the so-called "Gros Michel" (also Jamaica, Martinique, Guadeloupe, or Bluefields), known to the Ladinos as "patriota" or "blanco"; this is the only variety entering largely into world trade. The Chinese or dwarf banana (*Musa chinensis* syn. *M. humilis* and *M. cavendishii*), which is the one grown in the Canary Islands for the European market, is also grown a little; this is the only species suitable for cultivation in the temperate zone and in the higher altitudes of the tropics. It is cultivated in Florida and in southern Louisiana, where it is called "horse banana." Various varieties of the plantain (M.: *plato*, from the Spanish "plátano"; S.: *waki; Musa paradisiaca normalis*) are also grown by both tribes. There are some native names for certain of the local varieties of the plantain and banana.

CASSAVA.—Sweet cassava (*Manihot palmata* Muell. or *M. aipi* Pohl; M.: *yauhra;* S.: *malai, maley*) is the staple food of the coastal Miskito; it is also cultivated by those living inland, and by the Sumu. This food plant was mentioned by Raveneau de Lussan (438), Exquemelin (Engl. ed.: 251), and M. W. (310). The bitter cassava (*Manihot utilissima* Pohl) is unknown to either Miskito or Sumu, but is largely cultivated in two different varieties by the Black Carib (Garif) and the Paya of Honduras, who eliminate the deadly hydrocyanic acid contained therein by ingenious methods.

EDDOES OR TANIAS.—This plant, which is known locally among the English-speaking population by the Jamaican name "coco" (*Xanthosoma sagittifolium* Schott; M.: *duswa;* S.: *wilis*), is also cultivated for its eatable tubers. It is of similar appearance and habits as the taro (*Colocasia* sp.), the staple food of the Pacific Islands.

SWEETPOTATOES.—There are several varieties of the sweetpotato (*Ipomoea batatas* Poir.; M.: *tawa;* S.: *pai*). This food plant has been met with by several authors of the seventeenth century among the Miskito of Cabo Gracias a Dios (Exquemelin, Engl. edit.: 251; Dampier: I, 9; M. W.: 310). It was also cultivated by the aborigines of the Corn Islands in those days (Exquemelin, Engl. edit.: 114).

YAMS.—Several varieties of yams (*Dioscorea* sp.) are cultivated; they are of African origin and the Indians have no native name for them.

[1] This name is probably deformed from pacoba, bacove, bakaceba, or bacoven, names given to the banana in Brazil and in the Guianas. These words derive from *pake* or *pakoba* "banana" of the Tupi-Guarani linguistic stock. In the Spanish edition of Exquemelin's work (p. 453) the word is, in fact, spelled "bacoves." Cf. also Van Panhuys, Observations on the Name Bacove, Twenty-first International Congress of Americanists. Göteborg, 1925.

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them. There is, however, a semiwild growing variety of a purplish color, which is called *usi* by the Miskito and Sumu; this is probably the one mentioned by Dampier (I, 9) and M. W. (310).

OTHER VEGETABLES.—Pumpkins and squashes (*Cucurbita pepo* L.; M.: *ius*; S.: *ati*) are also grown to some extent, while the chayote or chocho (*Sechium edule* Sw.; M. and S.: *mukula*) and the tomato (*Lycopersicum esculentum* Mill.) are cultivated in a desultory way. The latter plant appears to be indigenous, but there is no native name for it.

MAIZE.—Maize or Indian corn (*Zea mays* L.; M.: *aya*; S.: *am*, *ama*), which forms the staple food practically all over Central America, is sparsely cultivated by the Miskito; however, it was already observed among them during the latter part of the seventeenth century by Raveneau de Lussan (438) and by M. W. (308, 310). This food plant is more esteemed by the Sumu, especially by the Twahka and Ulwa, who grow an inferior quality of inbred maize. It is stored by hanging it under the roof over the smoke in order to prevent molding.

BEANS.—The red or black beans (*Phaseolus vulgaris* L.), which rank as a staple food in large areas of northern and western Central America, are grown to a very small extent by either Miskito or Sumu. The red variety is the one usually found; it is somewhat smaller than the red kidney bean of the United States. Both tribes have a native name (M.: *snak*, *snik*; S.: *sinak*) for the plant; as these designations are also applied to a wild-growing vine, bearing small beanlike fruits, it is very probable that beans have been introduced only in recent times. In fact, this food plant is not mentioned by any one of the seventeenth century authors.

RICE.—Rice (*Oryza sativa* L.) is rarely cultivated and has been introduced recently; it is known by its English or Spanish name. The grain is heavy and rounded, and it differs considerably from the native wild rice of tropical America (*Zizania* sp.), with long, narrow, dark grain.

PEJIVALLE PALM.—The pejivalle or pijibay palm (*Guilielma utilis* Oerst.; M. and S.: *supa*) is cultivated for its edible fruit all over the Mosquito Coast, usually around the Indian huts. The Central American name for this plant appears to have been taken from the Arawak language of Haiti. The palm is probably of South American origin and is extensively cultivated in the tropical part of that continent. It is there known by a great variety of names, of which the following are the best known: Gachipáez, cachipaes or cachipay (Colombia), chonta[a] (Ecuador), piritu, prijao (Venezuela), pupunha (Brazil), paripu, paripi and peach palm (Guianas).

[a] From the Quichua *chontaruru* or *chontadura*.

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245 On the Atlantic slope of Central America this palm is grown as far north as Rio Tinto in Honduras, but on the Pacific side its northern limit is formed by Lake Nicaragua. It is found only in the cultivated state; the palms found occasionally in deserted regions indicate former village sites. A wild variety, bearing inedible small fruits, is found on the Mosquito Coast to the south of Bluefields; it is there known as "pejivalle de monte" or "wild supa."

COCONUT PALM.—The coconut palm (*Cocos nucifera* L.), called *kuku* by both tribes, is found in a semiwild state all along the seashore; some of the inland Indians have also planted a few trees. This palm is not mentioned by the buccaneers who visited the Mosquito Coast, as Exquemelin, Dampier, and Raveneau de Lussan; it was met, however, by M. W. (310). The Indians make little use of the coconut, except that they drink the water and eat the tender kernel of the young nut; very few of them extract the oil from it, as do the Creoles and Black Caribs.

249 [177] SUGARCANE.—Sugarcane (*Saccharum officinarum* L.; M.: *kayu*, from the Spanish "caña"; S.: *tisnak*) was brought by the Spaniards during the early part of the sixteenth century to the New World, first to the West Indies and later to the mainland.[a] The various buccaneer authors do not say anything of its occurrence among the Miskito. The first mention of this plant on the Mosquito Coast is found by M. W. (310), who states that the Miskito King Jeremy had some in his plantation, but in those days (1699) the Indians did not yet know how to make sugar from the juice. Nowadays they drink the juice of this plant, after having allowed it to ferment; they also boil it into sirup and brown sugar.

CACAO.—Although an indigenous tree, cacao (*Theobroma cacao* L.; M. and S.: *kakau*) is cultivated only by the Ulwa, but in former days it was also grown by the Miskito (M. W.: 308, 310). The [222] Indians also collect the pods from the various varieties of cacao trees which grow wild in shady parts of the forest.

Cacao pataste or "werbra cacao" (*Theobroma bicolor* Humb. and Bonpl.; M.: *urañ;* S.: *kuru*) is cultivated, however, in the neighborhood of the huts.

CACTUS.—Sloane (2: p. LXXVIII) reports that the Miskito cultivated the Opuntia cactus for the breeding of the cochineal insect; this must be a mistake, however, for that industry was limited to the Indian tribes of the Pacific slope and of the interior, particularly in Mexico, Guatemala, Salvador, and Honduras.

245 FRUIT TREES.—The most common of the indigenous fruit trees, outside of the ones enumerated above, are the following: Pineapples

[a] Hernán Cortés, the great conquistador of Mexico, introduced the plant from Haiti into Honduras (Trujillo) as early as 1526.

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(*Ananas sativus;* M.: *pihto;* S.: *masa, masahti*),[44] papaws or papayas (*Carica papaya* L.; M.: *twas, tawas;* S.: *ulmak, ulumak*), avocados or alligator pears (*Persea gratissima* Gaertn.; M.: *sikya;* S.: *sikya, sariñ*), soursops (*Anona muricata* L.; M.: *dwarsap;* S.: *sapot*), guavas (*Psidium guajava* L.; M.: *sikra;* S.: *burimak*), cashews (*Anacardium occidentale* L.; M. and S.: *casau*), and watermelons (*Citrullus vulgaris* Schrad.; M. and S.: *rayapisa*). Spanish plums (*Spondias purpurea* L.), although apparently indigenous, are rarely found, and their Indian name *ploms* comes from the English language.

The most important fruit trees of foreign origin are: Citrus fruits (oranges, lemons, sweet limes, sour limes, shaddocks, grapefruits, citrons), mangoes (*Mangifera indica* L.), breadfruits (*Artocarpus communis* syn. *incisa*), tamarinds (*Tamarindus indica* L.), and rose apples (*Eugenia jambos* L.).

GARDENS.—Around their houses many Indians cultivate also a few fruit trees and other plants. The calabash tree (*Crescentia cujete* L.; M.: *kahmi;* S.: *sutak*) is very common in these gardens; it is esteemed for the very useful kitchen receptacles obtained from its fruit. A few bushes of cotton (*Gossypium peruvianum* Cav.; M.: *wahmuk;* S.: *wahmak*), chilé peppers (*Capsicum* sp.; M.: *kuma;* S.: *asmak, añmak*) and annatto (*Bixa orellana* L.; M.: *aulala, tmariñ;* S.: *awal*) are found near every lodge. A number of flowers are also cultivated, as the African marigolds, purple and white four-o'clocks, and the crimson hibiscus.

FISHING AND FISHING IMPLEMENTS

A very large share of the food supply of these primitive Indians is obtained from the sea, the lagoons, and the rivers. Fishing is therefore an occupation wherein both tribes have attained an unusual degree of skill. The main implements used for this purpose are harpoons, fishhooks, nets, and bows and arrows.

JAVELIN.—The javelin or throwing spear (M.: *wdisku;* S.: *suksuk*) is used in the sea, lagoons, and larger rivers. It consists of a wooden staff, from 8 to 9 feet in length, in the front end of which a sharp barbed steel head has been inserted. The staff is of strong, slender, light wood, generally of a tree called "magaleta" (M.: *sihnak, sinak;* S.: *sina*); the Ulwa, however, use for this purpose the wood of a tree called by them *pan-kuba*, which is said to be superior to the above-mentioned species. The loosely fitting steel point is from 4 to 5 inches long and is made of an old file, wherein several series of double

[44] The old authors, Exquemelin (Engl. edit.: 251), Dampier (I, 9), and M. W. (308, 310), met this fruit among the Miskito during the latter part of the seventeenth century; in those days it was also cultivated by the aborigines of the Corn Islands (Exquemelin, Engl. edit.: 114).